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Docket Office  
California Energy Commission  
1516 Ninth Street, Mail Station 4  
Sacramento, CA 95814-5512

Subject: Docket No. 04-AAER-1

Dixie-Narco is pleased to present the Commission with comments on the proposed amendments to the current Appliance Efficiency Regulations, Title 20, specifically with regards to the requirements for refrigerated beverage vending machines.

To provide the Commission with some background, Dixie-Narco is the largest manufacturer of refrigerated beverage vending machines in the United States. We are a division of the Maytag Corporation, an Energy Star® Partner and have been in business for over 60 years.

The purpose of these comments is to address our concern regarding the proposed method of testing and rating energy consumption for refrigerated vending machines, specifically with regards to machines designed and marketed "For Indoor Use Only".

In accordance with Industry Standards<sup>1</sup>, vending machines are designed for three types of locations, Indoor Use Only, Protected Locations, and Suitable for Outdoor Use.

By definition, Indoor Use Only machines are those located inside a building and consequently not subjected to the effects of weathering.<sup>2</sup> These machines are typically constructed with a glass door. They are located in areas such as Schools, Cafeterias, Office Buildings, Airport Terminals, etc. where the average indoor air temperature as published in the 1995 ASHRAE Handbook for HVAC Applications is approximately 75°F.

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<sup>1</sup> UL541 Refrigerated Vending Machines, UL751, Vending Machines, UL471, Commercial Refrigerators

<sup>2</sup> UL541, Sixth Edition, Sec. 3.5

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The design of these machines with respect to lighting and refrigeration does take into account the intended environment for which they will be used. By virtue of their design and Listing by Underwriters Laboratories, these machines are clearly marked "For Indoor Use Only" and may not be used in protected locations or in outdoor locations.

As currently proposed, Section 1605.3, Table A-7 imposes a limit on energy consumption based upon the tiered limits published in the EPA Energy Star program, effective January 1, 2006. Indoor Use Only machines, when tested at 75°F are energy efficient and are capable of meeting this criteria, however when the same machine is tested at 90°F, it operates outside of its design intent, with many adverse affects including increased condensate, freeze-up, and increased duty cycle, all which contribute to the machine operating in excess of the proposed limits.

One implication of testing an "Indoor Only" machine at 90°F would be to potentially exclude a machine that meets Energy Star guidelines from sale in the State of California when in fact it meets applicable Federal guidelines when used in its intended, average 75°F environment. Another is that publication of 90°F data will infer a machine is suitable for use in this environment when in fact it may not.

The EPA addresses the uniqueness of vending machines designed and marketed "For Indoor Use Only" in its Energy Star Program.<sup>3</sup> It specifies that machines marked as Suitable for Outdoor or Protected locations be tested at 90°F and machines designed for "Indoor Use Only" be tested at 75°F. The three largest manufacturers of refrigerated vending equipment are currently testing and publishing data to this standard.<sup>4</sup> As the CEC proceeds with establishing test criteria for energy consumption of refrigerated beverage vending machines, we recommend these two categories be adopted as well. The definition of Indoor and Indoor/Outdoor is well established and readily understood in the industry. Attempting to introduce other categories, such as "Multi-Package Vender" will potentially lead to confusion. Essentially all vending machines are potential candidates for vending a multitude of package types and could conceivably be placed in this category.

With reference to Section 1604, Table A-2, Indoor Use Only machines are effectively the same as Commercial Refrigerators with doors. The energy consumption of commercial refrigerators is determined at 75°F in accordance with ASHRAE 117-1992.

We recommend Table A-7 be amended to show that effective January 1, 2006, Refrigerated Canned and Bottled Beverage Vending Machines marked "For Indoor Use Only" be tested in a 75°F environment as well and that machines marked for "Protected Locations" or "Suitable for Outdoor Use" be tested in a 90°F environment.

<sup>3</sup> [http://www.energystar.gov/index.cfm?c=vending\\_machines.pr\\_vending\\_machines](http://www.energystar.gov/index.cfm?c=vending_machines.pr_vending_machines)

<sup>4</sup> [http://www.energystar.gov/ia/products/prod\\_lists/vending\\_prod\\_list.pdf](http://www.energystar.gov/ia/products/prod_lists/vending_prod_list.pdf)



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As technologies improve, we look forward to working with the Commission, through the application of new developments, to further reduce energy usage and improve our environment.

Another important note is that the referenced test method, ASHRAE 32.1, is currently under review by the ASHRAE Board of Directors with regards to ambient test requirements for "Indoor Use Only" machines.

In summary, Dixie-Narco wishes to propose the following:

- Harmonize the CEC Appliance Efficiency Regulations with current industry terminology through the adoption of two vending machine categories, "Indoor Use Only" and "Protected or Outdoor Locations"
- Eliminate the "Multi-Package Vender" language from the Docket
- Test and report to Table A-7 limits for "Protected Location and Outdoor" machines at 90°F effective January 1, 2006
- Test and report to Table A-7 limits for "Indoor Use Only" machines at 75°F effective January 1, 2006

Thank you for the opportunity to comment on this proposal. We look forward to continue working with the Commission on this important issue.

Very truly yours,

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